

ATOMIC ENERGY *newsletter*®

A SERVICE FOR INDUSTRY BUSINESS ENGINEERING AND RESEARCH
ROBERT M. SHERMAN, EDITOR. PUBLISHED BI-WEEKLY BY ATOMIC ENERGY NEWS CO., 1000 SIXTH AVENUE, NEW YORK 18, N. Y.

Dear Sir:

January 19, 1960
Vol.22...No.12

New company known as DYNATOM, which will build and sell nuclear reactors in France and other common market countries, has been formed by Atomics International division of North American Aviation and two French companies, Societe Alsacienne de Constructions Mecaniques and Chantiers de l'Atlantique (Penhoet-Loire), machinery and equipment manufacturers. The joint company will submit proposal to construct the 165 electrical megawatt organic moderated reactor for nuclear power plant of Societe Franco-Belge de la Centrale Nucleaire des Ardennes. The latter, a group of French and Belgian utility firms, intends that the plant be under the purview of the EURATOM program. (Other BUSINESS NEWS, p. 3 this LETTER.)

Three proposals made to Stanrock Uranium Mines to take over that company's uranium sales contract with Eldorado Mining & Refining, Ltd., have been rejected by Montreal Trust Co., the receiver and manager of Stanrock in receivership. It was the feeling of the Stanrock bondholders that continued operation would better serve interests of bondholders and general creditors rather than disposal of contract for balance of undelivered uranium concentrates. Informed observers believe that bidding companies were Consolidated Denison Mines; Gunnar Mines; and the Rio Tinto group. (Other FINANCIAL NEWS, p. 2 this LETTER.)

Uranium ore mined in the U. S. during 1959 reached a record total of 6,800,000 tons, worth more than \$135 million at official government prices. This was about 30% above the 1958 production of 5,200,000 tons valued at \$116 million. Uranium concentrates produced from these ores in 1959 totaled about 16,200 tons with official government value of about \$300 million; this compared with 12,560 tons valued at \$238 million in 1958. Of the fourteen uranium producing states, New Mexico was at the fore with output of 3,219,000 short tons of ore valued at \$54,570,000. (Other RAW MATERIAL NEWS, p. 5 this LETTER.)

Hearings have been scheduled for March 22-24 by Joint Congressional Committee on Atomic Energy, on future of the USAEC's national laboratories. Presently operated by private organizations and educational institutions under USAEC contracts, suggestions have been made by U. S. Chamber of Commerce, National Association of Manufacturers, and Manufacturing Chemists Association that the laboratories be turned over to private industrial firms.

Shock forces in excess of 50g have been applied to certain of its large size glass nuclear shielding windows with no damage to the glass or window mounting, according to Ray Proof Corp., of Stamford, Conn., manufacturers of the nuclear windows. The shock tests were performed at a U. S. Navy test laboratory since the windows are being supplied by Ray Proof for the U.S.S. Long Beach. Specially developed design and assembly techniques were used by Ray Proof to insure that the windows could withstand the severe shock. (Other MANUFACTURERS' NEWS, p.3 this LETTER.)



CONTRACTS LET...on nuclear jobs...

NUCLEAR POWER PLANT FOR PUERTO RICO: Puerto Rico Water Resources Authority, with the USAEC, will jointly participate in a nuclear power plant in Puerto Rico, under terms of contract signed last week in Washington. Reactor used would be of the boiling water type and would produce nuclear superheated steam within the reactor core for the generation of 16,300 electrical kilowatts; it would be fueled with uranium dioxide. The Authority will provide the site and the conventional turbo-generating facilities, operate and maintain the reactor on a reimburseable basis, and purchase steam from the USAEC. The reactor would be furnished by and remain the property of, the USAEC. (In December, 1958, work was initiated on this project, and General Nuclear Engineering Corp., Dunedin, Fla., made feasibility study, preliminary design and safety analysis of the proposed reactor for the Authority. The USAEC is now negotiating with General Nuclear to do the final design of the nuclear portion of the plant. Contractor to construct the reactor will be selected at a later date.)

RESEARCH & DEVELOPMENT AWARDS MADE: Some ten research and development contracts totaling \$447,834 have been awarded by the USAEC to develop radioisotopes and radiation technology. Six of the contracts were renewals. Receiving the renewals were William H. Johnston Laboratories, Inc., Lafayette, Ind., for basic studies in radiation technology; Radiation Applications, Inc., New York, for research and development on foam separation techniques for isolating and concentrating fission products from nuclear fuel residues; Battelle Memorial Institute, Columbus, Ohio, for development of radioisotope tracer systems for process and quality control; Library of Congress, Washington, D.C., for monitoring world literature on industrial radioisotope applications; Textile Research Center, N.C. State College, Raleigh, N.C., for fiber modification by radiation; and Tracerlab, Inc., Waltham, Mass., for radiochemical methods for detecting and analyzing non-radioactive gases. New contracts went to Jarrell-Ash Co., Newtonville, Mass.; Isotopes, Inc., Westwood, N.J.; Bureau of Mines, Washington, D.C.; and Texas A.& M. College's Engineering Experiment Station.

ATOMIC ENERGY FINANCIAL NEWS...

INSTRUMENT MANUFACTURER REPORTS RECORD QUARTER NET: Baird-Atomic, Inc., Cambridge, Mass., had profit after taxes of \$35,000 for the quarter ended December 31, 1959 on gross sales of \$2,900,000 according to George B. Foote, treasurer. Mr. Foote said that this manufacturer of instruments, including a complete line for reactor and laboratory instrumentation, now has order backlog of \$5 million, with business one-third Government and two-thirds commercial. In the next twelve months Government business may reach 50%, he noted. (The company has just negotiated a contract with Curtiss-Wright Corp. for exclusive sales rights on a sub-critical training reactor. Distribution of the Curtiss-Wright reactor, with Baird-Atomic instrumentation, will be handled by BA's subsidiary sales organization, Atomic Associates, Inc.)

SETTLEMENT MADE OF CONTRACT DISPUTE: Out of court settlement has been made by Lithium Corp. of America to Quebec Lithium Corp. following filing of damage suit by the Canadian firm after Lithium Corp. refused to accept some 17,000 units of lithia concentrate per month until March 1, 1962 as provided in contract between the two firms. Lithium Corp.'s action was result of loss of its purchaser for the refined lithium, the USAEC, when the Commission cancelled its contract with the company. Under terms of the damage settlement, Lithium Corp. on December 30, 1959 made an initial payment of \$100,000 to Quebec Lithium. A second payment of \$100,000 is due before January 30, 1960. Before Sept. 1, 1960 a further sum will be paid to bring the total to \$1 million. A remaining \$900,000 is to be paid to Quebec Lithium in equal monthly installments over the next three years, making the total settlement \$1.9 million. As security for the settlement, Quebec Lithium will get a first mortgage on the complete plant of Lithium Corp. at Bessemer City, N.C., as it existed on July 1, 1959. (Lithium Corp. will charge the entire \$1.9 million against 1959 earnings, so that earnings of subsequent years will not be adversely affected.)

URANIUM REFINING FIRM GETS RAPID AMORTIZATION OF FACILITIES: Cotter Corp., Santa Fe, N.M., has received rapid amortization to the extent of 80% of \$2,024,986 to be spent on uranium ore processing facilities. The rapid write-off was given Cotter on the last day of the program which has now ended.

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NEW PRODUCTS, PROCESSES, INSTRUMENTS...

NEW PRODUCTS: New line of scintillation detector preamplifiers includes such features as focusing control to adjust screen voltage for optimizing resolution, and high voltage filtering in the dynode voltage divider. Known as the "V" line, the preamplifiers are offered at moderate prices. --Nuclear-Ohio, Inc., Bay Village, Ohio.

New version of this manufacturer's Model SC-65 Tracer-Scanner is now offered. Used in clinical diagnostic procedures which utilize radioisotope tracer techniques, the instrument provides printed record of radioisotope distribution in areas such as the thyroid gland, liver, spine and gall bladder. It employs a gamma scintillation detector, a "square wave" scanning mechanism that carries the detector over the area being investigated, a scaler, and a printer that travels in synchronism with the detector. --Tracerlab, Inc., Waltham 54, Mass.

New atmospheric-particle counting instrument is for continuous monitoring of outdoor air or atmospheres of indoor locations, such as ultra-clean work areas. Using a strip-chart recorder, a permanent record is made of aerosols present in an overall range from 0.3 microns to any desired upper limit. The record is recorded in sequence at intervals which can be predetermined in length. --Royco Instruments, Inc., Mountain View, Calif.

PRODUCT NEWS: Reduction of 90% in the price of helium-3 has been made effective January 1 of this year by the USAEC. New price is now 15¢ per cc, against former price of \$1.50 for that quantity. Reduction has also been made in the packaging charge for orders of more than 1500 cc of the isotope; it is now \$50.00, the same as for orders of less than that quantity. A standard 25 cc package is offered for \$25.00, which includes the special packaging cost. Further details may be obtained from the Isotope Sales Dep't., Oak Ridge National Laboratory, Oak Ridge, Tenn.

The Vacu-Blast method of closed circuit grit blasting has been adapted to the needs of nuclear power stations in the company's Vacu-Blast Major Mark II machine, manufactured by Vacu-Blast, Ltd., Slough, Bucks, England. This allows cleaning of complicated shapes yet retains vacuum local to impact point allowing quick recovery of the majority of the dust generated in the process. As in the original Vacu-Blast machine, it provides for recovery of spent abrasive and vacuum cleans the work surface after the grit blasting.

MANUFACTURERS' LITERATURE: Properties and uses of lead and lead-surfaced metals and alloys for shielding equipment against corrosives, radioactive corrosives, and radiation are covered in catalog of Knapp Mills, Inc., 23-15 Borden Ave., Long Island City, N.Y.....Manual No. 3, "Study of Fine Particles", discusses methods of isolating, sizing, counting and identifying fine particles in air, gas and liquid streams. It may be obtained on request to Gelman Instrument Co., Chelsea, Mich..... New catalog, No. A-4, describing nuclear instruments, systems and accessories, may be obtained from Baird-Atomic, Inc., Cambridge, Mass.

ATOMIC ENERGY BUSINESS NEWS...

NEW YORK GROUP TO STUDY POWER ECONOMICS INCLUDING NUCLEAR GENERATED: Empire State Power Resources Associates has been formed by seven New York State utilities to study long range power needs of the state. Economics of nuclear power will be the first study, under direction of John R. Dunning, dean of engineering, Columbia University, and with assistance of Sidney M. Stoller, formerly of Vitro Engineering Co. The seven utilities include Consolidated Edison; Rochester Gas & Electric; Central Hudson Gas & Electric; Long Island Lighting; Niagara Mohawk; New York State Gas & Electric; and Orange & Rockland Utilities. Executive director is Alexander M. Beebe, former president and chairman of Rochester Gas & Electric.

RADIATION DAMAGE TO BE EXCLUDED FROM BRITISH INSURANCE POLICIES: Insurance policies issued after April 1, 1960 in the United Kingdom are to contain a clause excluding coverage for injury or damage from radiation, according to the British Insurance Association and Lloyd's of London. Policy change will be coincident with the Nuclear Installations (Licensing and Insurance) Act, which is effective in April. This Act requires that reactor operators carry third party liability for amounts up to £25 million, or act as self-insurers by being able to provide such amount. (In the U. S., most policies have for some time now carried similar clauses.)

ATOMIC ENERGY PATENT & TRADE-MARK DIGEST...

PATENTS ISSUED December 29, 1959 to PRIVATE ORGANIZATIONS AND/OR INDIVIDUALS:

(1) Radioactive gauging temperature compensator system. Willard E. Smith, Jr., inventor. No. 2,919,351 assigned to The Foxboro Co., Foxboro, Mass.

PATENTS ISSUED December 29, 1959 to GOVERNMENTAL ORGANIZATIONS: (1) Self sintering of radioactive wastes. Edward G. Struxness, James R. Johnson, Karl Z. Morgan, Thomas N. McVay, inventors. No. 2,918,717 assigned to USAEC. (2) Radioactive concentrator and radiation source. Loranus P. Hatch, inventor. No. 2,918,700 assigned to USAEC. (3) Process of recovering uranium. Scott B. Kilmer, inventor. No. 2,919,175 assigned to USAEC. (4) Uranium alloys. Eric Winearls, inventor. No. 2,919,186 assigned to USAEC. (5) Nuclear reactor including a package safety device. Walter H. Zinn, inventor. No. 2,919,236 assigned to USAEC.

PATENTS ISSUED January 5, 1960 to PRIVATE ORGANIZATIONS AND/OR INDIVIDUALS:

(1) Method and apparatus for continuous measurement of moisture. John H. Heller, inventor. No. 2,920,206 issued to inventor of record. (2) Measuring devices used in radioactive materials. Gordon F. W. Powell, inventor. No. 2,920,207 assigned to Molins Machine Co., Ltd., Deptford, London, England. (3) Indicating system. Jack G. Crump, inventor. No. 2,920,208 assigned to Industrial Nucleonics Corp. (4) Radioactive ignition system. William B. Lane, inventor. No. 2,920,238 issued to inventor of record.

PATENTS ISSUED January 5, 1960 to GOVERNMENTAL ORGANIZATIONS: (1) Two-way freeze valve. Kenneth D. Lantz, Phillip M. Clark, inventors. No. 2,919,710 assigned to USAEC. (2) Molten fluoride nuclear reactor fuel. Charles J. Barton, Warren R. Grimes, inventors. No. 2,920,024 assigned to USAEC. (3) Nuclear reactors. John B. Anderson, inventor. No. 2,920,025 assigned to USAEC. (4) Removal of chloride from aqueous solutions. Marshall L. Hyman, Jouko E. Savolainen, inventors. No. 2,919,972 assigned to USAEC. (5) Ion source. Wallace T. Leland, inventor. No. 2,920,200 assigned to USAEC. (6) Device and method for producing a high intensity arc discharge. John S. Luce, inventor. No. 2,920,234 assigned to USAEC. (7) Method and apparatus for producing intense energetic gas discharges. Persa R. Bell, John S. Luce, inventors. No. 2,920,235 assigned to USAEC. (8) Apparatus for heating ions. Edmund S. Chambers, Alper A. Garren, Dean O. Kippenham, William A. S. Lamb, Robert J. Riddell, Jr., inventors. No. 2,920,236 assigned to USAEC.

TRADE-MARKS: Trade-mark "Neutronics" (SN-36,800) is to be issued Leslie E. Johnson, d.b.a. Neutronics Laboratory, Tinley Park, Ill. The mark is to cover nuclear instrumentation and reactor counters, i.e., counters, pulse chambers, and ionization chambers.

PATENT NEWS: Patent infringement claim of Walter M. Weil against the USAEC is being settled by a cash payment and license agreement. Settlement terms provide that the USAEC pay \$150,000 to Mr. Weil's firm, Cooper Metallurgical Associates, Cleveland for release from patent infringement by the Commission, and for license to Mr. Weil's process for making isotopically altered elemental boron. The Model City, N.Y. plant of the USAEC has been using Mr. Weil's process to make elemental boron enriched with boron-10 isotope. The plant's existing apparatus will continue to be used in production work, under terms of the license.

New group of 78 patented inventions, developed under USAEC auspices, and assigned to the Commission, have been made available on royalty-free (non-exclusive) basis to U.S. firms. The inventions were all issued in July and August, 1959, and have been reported in this LETTER previously; details of this group, as well as the 2,022 previously made so available may be obtained from Office of General Counsel, USAEC, Wash. 25, D.C.

NEW BOOKS & OTHER PUBLICATIONS...

Nuclear Ship Propulsion. Holmes F. Crouch. Intensive consideration of nuclear ship technology by the author, a nuclear engineering specialist with a marine engineering background. 386 pages.--Cornell Maritime Press., Cambridge, Md. (\$10.00)

Atoms & the Law. E. Blythe Stason, Samuel D. Estep, William J. Pierce. Relationship of Federal, state and other authorities to nuclear projects; tort liability; workmens' compensation; etc. 1,512 pages.--University of Michigan Law School, Ann Arbor, Mich. (\$15.00)

MEETINGS, COURSES, CONFERENCES...

CONFERENCES: Western Industrial Isotope Conference is scheduled for February 3-5, 1960, in San Francisco, Calif., under co-sponsorship of USAEC, University of California, and Stanford Research Institute. Full details may be obtained from Lawrence M. Grossman, Univ. of California, 2451 Bancroft Way, Berkeley, Calif.

Two major scientific conferences and 11 symposia are included in the provisional schedule of meetings to be organized by the International Atomic Energy Agency in 1960, according to Director-General Sterling Cole. Now in the preliminary planning stages, locations and arrangements with other international organizations have not yet been completed. One large conference will deal with radioisotopes in the physical sciences and in industry; it will probably be held the end of August. IAEA's other major scientific conference will deal with problems of medium and small-size reactors and is planned for beginning of September in Vienna. The eleven symposia, from May to December 1960, will cover fuel element fabrication; radiation dosimetry; effects of ionizing radiation on seeds; inelastic scattering of neutrons in solids and liquids; neutron pile research; chemical effects of nuclear transformation; nuclear ship propulsion; experimental test reactors; pest control by ionizing radiation; and use of radioisotopes in the study of endemic and tropical diseases.

SYMPOSIA: International Symposium on the Metallurgy of Plutonium will be held under co-sponsorship of Societe Francaise de Metallurgie, and Commissariat a l'Energie Atomique, at Grenoble, France, April 19-22, 1960. Details may be obtained from Societe Metallurgie, 25 rue de Clichy, Paris, France.

Symposium on Gas Cooled Reactors is scheduled for February 10-11, 1960 at Franklin Institute, Phila., Pa. It is under co-sponsorship of Franklin Institute and Delaware Valley Section, American Nuclear Society. Further information is available from Francis L. Jackson, Franklin Institute, Phila., Pa.

COURSES: Courses in radiological health are to be given this Spring by the department of industrial medicine of New York University-Bellevue Medical Center (post-graduate medical school). Medical and Public Health Control of Ionizing Radiation is scheduled for March 7-18; tuition is \$100. Radiation Hygiene Measurements will be given April 18 - May 13; tuition for this course is \$200. The courses will run full-time. Information on specific topics to be covered, etc., may be obtained from The Associate Dean, N.Y.U. Post Graduate Medical School, 550 First Ave., New York 16, N.Y.

Special 6-week Summer institute in radiisotope techniques for college teachers of chemistry and physics will be conducted July 25 - September 2, 1960 by the special training division of Oak Ridge Institute of Nuclear Studies. Support will be given the Summer institute by the National Science Foundation, in cooperation with the USAEC. Applications for the Summer institutes must be returned by February 5, 1960.

MEETINGS: Annual meeting of American Institute of Mining, Metallurgical and Petroleum Engineers is scheduled for February 14-18, 1960, at Hotel Sheraton-Atlantic, New York. Sessions will cover uranium rare earths, and minor metals; nuclear fuels reprocessing; light metals; and hydrometallurgy. Full details may be obtained from R. W. Shearman, AIME, 29 W. 39th St., New York 18, N.Y.

RAW MATERIALS...prospecting, mining, marketing...

CANADA: Northspan Uranium Mines is now operating its Panel and Lacnor mines (at Elliot Lake, N. Ontario) at or close to capacity rates, informed observers have now reported. Additionally, both producers have underway development programs which on completion will provide sufficient ore to enable the mines to fulfill the large sales contracts held from Eldorado Mining & Refining. Both mines have also achieved reductions in operating costs. For the past 11-month period, Panel's average operating cost was \$12.18 per ton; for all of 1958 it had averaged \$13.45. At Lacnor, average costs for the most recent 11-month period were \$10.89 per ton; this compares with \$13.45 for all of 1958.

Sincerely

The Staff,
ATOMIC ENERGY NEWSLETTER

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